THE

WESTERN

Medical and Physical Journal.

JULY, 1827.

ORIGINAL ESSAYS AND CASES.

ART. I.—*History of a case of Congenital Chorea Sancti Viti,*
By DANIEL DRAKE, M. D.

FEBRUARY, 1827. Caroline Carrick, whose case I am about to narrate, is the daughter of a poor woman in Lexington, Kentucky. She is twelve years old, of the ordinary size, and exhibits the proportions of a well formed skeleton. Her muscular system is sufficiently developed, with the exception of the muscles of the lower limbs; which, apparently from being very little exercised, are proportionably smaller than the rest. She is not corpulent. Her temperament inclines to the bilious. Her head and spinal column present in their external appearance, nothing unnatural or unhealthy. The former indeed has an excellent configuration; and the latter, although perpetually bent in various directions by the spasmodic action of the muscles which move it, appears to be perfectly sound.

In early infancy, the muscles of her neck seemed to have less power than belongs to that period, as whenever she was but partially elevated, her head would fall either forward or backward, against her chest; and when she attained the age, at which children usually sit alone on the floor, with their

legs extended, she could not be made to do so, but kept her knees flexed. She never learned to walk, nor is she yet able to sit on a seat without a back. When an infant, she was remarkable for great fretfulness; and, except when asleep, some portion of her muscular system was constantly, as it has been ever since, in a state of irregular contraction. When twelve or eighteen months old, she had an attack of Erysipelas on the foot and leg of one side; and to this succeeded, in the language of her mother, 'boils and breakings out for many years.' Otherwise she was, as it respects the functions of nutritive life, generally well;—grew as fast as other children—experienced on the main, a regular habit of body—and had a moderate appetite.

For the last year, however, her bowels have been torpid, so that in general she has not had more than two alvine discharges a week, and she has manifested an excessive desire for apples—but no abdominal swelling has taken place. She has a clean tongue, and a pulse nearly natural in force and frequency. Her respiration is unembarrassed.

At present, her muscular system of animal life exhibits the following phenomena:

The muscles which protrude and retract the tongue, and those of the eye balls, are exempt from the disease; and those which move the eye brows and eye lids, are but little affected. All the rest are in perpetual, disassociated contraction and relaxation, so as to produce incessant writhings and contortions of the various parts of the body. The muscles of the mouth, cheeks and jaws, are never quiet; but contract in such a forcible and disorderly manner, as to produce grimaces of the mouth, and an idiotic expression of that organ, which form a curious contrast with the steady and intelligent aspect of her eyes. She masticates with difficulty and awkwardness; her jaws occasionally snap together, and she has often bitten her tongue. She swallows better than she chews, and is not apt to be choked. She laughs, and cries, and talks; but these functions are performed imperfectly, and sometimes in a manner that is ludicrous. Her

head is constantly drawn out of place or direction, and often turned half way round, so as to bring her chin over one of her shoulders. The spinal column, as already intimated, is kept perpetually curved—sometimes in one part—at other times in another. Her lower limbs are strongly inclined to a state of flexion; but when compelled to stand, which she can only do on one at a time, it becomes straight. Of her hands and feet, it may be said, that the muscles are in constant spasmodic action—contracting and relaxing without concert, and often in direct opposition: So that while one finger is extended, another on the same hand will be flexed; and among the different joints of a single finger, both these states may be found at the same time. Her greatest voluntary efforts, therefore, are altogether uncertain and inefficient; though when she can succeed, for a moment, in applying any portion of her muscular system to an object, it is evident that she possesses considerable strength.

When she lies down, she can turn from either side to her back; but is unable to acquire her former position. As soon as she falls asleep, her muscles become quiescent. Her sleep is undisturbed, but scarcely as long as that of other children. In temper, she is less irritable than formerly; has a proper degree of cheerfulness; is ambitious, considerate, and grateful; has decided capacities for knowledge, and through the personal exertions of a benevolent lady, has recently learned to read. I am not able to ascertain what the influence of musick would be on her muscular system; but interesting stories, which fix her attention, are said to render it more steady. All her sensibilities, both common and specific, appear to be in a healthy condition.

Mary, her sister, ten years of age, well grown and in health, was observed about six weeks ago to let her left arm hang by her side, to be unsteady in her gate, and inefficient in her muscular movements generally. Her speech soon after suffered impairment; her countenance lost a portion of its intelligence; her abdomen swelled, and her appetite became voracious. For several days previously to the attack,

she had been much in the company of a poor woman afflicted with spasmodic disorders from Paralysis.

The father of these children was not subject to nervous diseases; but, one of his collateral relatives went blind at the age of three years, and another fell into idiotism, with spasmodic movements of the limbs, while yet a child.

Their mother, ten years ago, became partially deaf; and three of her six sisters "lost their hearing after they had grown up." One of their cousins and his daughter likewise experienced the same loss.

I am not disposed to attach great importance to the facts contained in the preceding history; and still they are not without value. They seem to bear out the following conclusions:

1. That chorea is sometimes a congenital malady.

2. That it may exist, and continue to exist for years, without being sustained by disorder in the nutritive organs; for that these organs were healthy in this patient, during the first eleven years of her life, is obvious;—not only from the phenomena which they at all times manifested, but by her regular growth and perfect developement.

3. That chorea may at last produce that unhealthy state of the digestive functions—depraved appetite, and intestinal accumulation—from which it is said to result. And if this *can* happen, may it not often occur? It is well known that the muscular disturbances in this disease often survive the corrected state of the digestive functions; and that the unhealthy condition of the latter is apt to recur. In these cases, was not the original disease in the animal functions, and did it not produce and reproduce the digestive maladies? It can scarcely be regarded as an objection to this conjecture, that chorea is frequently cured by cathartics; for great secretion and excretion from the chylopoietic organs are the means most likely to relieve the brain and spinal marrow from that unhealthy condition of their capillary circulation, which may be presumed to exist and excite irregular muscular action. General blood-letting in these cases would leave

the relative quantity in the different parts of the body the same. But copious and constant draining from the liver, pancreas, and gastro-enteritic mucous membrane, must necessarily draw into the cœliac and mesenteric arteries, an extraordinary quantity of blood; and this at the direct expense of the vessels of the brain and spinal marrow. Further, the metercostal ganglions receive a great number of spinal nerves; and the abdominal viscera are, therefore, capable of influencing, through that medium, the functions of the spinal marrow; while conversely, disease at the origins of those nerves, may with facility excite disease in their chylopoietic extremities; as we know to be the case in osseous inflammation and carries off the spinal column.

4. That the function of volition may be extensively and permanently disordered, while the other animal functions—intellection and sensation—remain unimpaired; a fact which gives support to the opinion of Bell and Magendie, that the nerves of general sensation and muscular motion are distinct from each other.

5. That the laws of the whole muscular system of locomotion may be deeply infringed, but those of respiration escape violation;—from which we derive a proof of the existence of a distinct system of respiratory nerves, governed by its own laws of association, as insisted upon by Mr. Bell.

6. Finally, that in the various members of a family, a principle of congenital, or heriditary disease, (I prefer to use an expression of the most general import,) may display its effects in *different* organs. Thus one of the paternal collateral relatives of this patient, had idiotism with chorea, and another amaurosis; while on the maternal side an extraordinary number were afflicted with deafness. Both families seem to have had nearly the same vice of physical constitution.

ART. II.—*Facts and observations on the Autumnal Epidemics of the state of Missouri, as they appeared in* 1819, 1820 *and* 1821; *together with an account of the useful qualities of the Extractum Juglandis cinereæ*, by JAMES A. M'PHETERS, M. D. Communicated to Samuel Brown, M. D.

The winter of 1818–19 was remarkably mild. Grass growing in the prairies was quite green in the middle of January, and there was much warm and wet weather during the whole winter. The diseases were for the most part simply inflammatory, and generally yielded readily to the free use of the lancet and neutral salts. In February, when the weather became much colder, there occurred some violent cases of Pneumonia, with cool skin, strong full hard and labouring pulse, and laborious breathing. These cases proved obstinate, required frequent bleedings, purging, and, what was of more permanent advantage than bleeding in determining the fluids to the surface, Jenning's vapour bath. The spring was late, and till the tenth of May very wet; from which time until the first of August, there was very little rain. Through the latter part of May, the whole of June, and more particularly July, the weather was intensely warm. The country in general remained healthy. During the first week of August, the rain fell in large quantities, which raised all the waters, and quite drowned the surface of the earth. The weather instead of being cooled by the rain as is usually the case, was rendered more hot, and continued so, through the greater part of August and September. The country continued healthy until between the second and third week in August, when the sickness began to break out in different places, and by the last of that month, it became quite general. The type of the fever was intermittent and remittent. In what I am about to say, I shall confine myself to the peculiarities of these diseases, as a complete history

of them would contain much useless repetition. First—with regard to the intermittents:

The attack was for several days preceded by a want of appetite, and sickness at the stomach particularly in the morning, which was more or less relieved, if the patient could be prevailed on to eat breakfast—so that keeping the stomach employed and excited appeared to postpone the attack. The nausea was also relieved and the appetite restored by taking a tea spoonful of common salt dissolved in a glass of water. By these simple means, many appeared to prevent the attack entirely. When the disease was formed, it was much disposed to become remittent. The sickness at the stomach was very distressing, particularly during the hot stage. A great irritability of that organ rejecting almost every thing, whether drink, food or medicine, was one of the most characteristic marks of the worst forms of the intermittent and also the remittent. This great affection of the region of the precordia, was not constant, but by paroxysms of ten or fifteen minutes each, whilst the remissions were of about the same length. An entire intermission never took place, except when produced by actively exciting the bowels. All the usual means for relieving sickness of the stomach, such as aromatics, opiates, blisters, injections, alkalies, absorbents, &c. were of temporary or no benefit. Emetics, when administered in this state, did not operate unless given in large doses, and their action was violent, spasmodic, and in general without a free discharge of any of the secretions. In the majority of cases, there were many retchings of a distressing kind, with the discharge of nothing but a thick, tough, slimy mucus, resembling the white of egg, in appearance. This secretion was another remarkable symptom of the epidemic. It commonly commenced in the throat, previous to the attack; was always in proportion to the degree of sickness, and frequently harrassed the patient more than any other symptom. The pain in the back was generally more distressing than in any other part of the body. During the hot stage, it was by no means uncommon for the heat of the skin to be at or below

the natural degree. There was also great inequality of temperature—different parts of the body and even one of its two sides possessing very different degrees of heat.

Bark was much less successful in curing this malady, than in former intermittents of this country; and it proved unusually obstinate and liable to relapse under any mode of treatment. The disease was generally attended with a strong pulse, and sometimes with severe pain in the head, and suffused eye. Emetics administered after bleeding, and during the hot stage, generally operated well. They afforded most relief when they produced perspiration or acted freely on the bowels; rendering the intermission more perfect—preventing or mitigating very much the next paroxysm, and making the administration of the bark more safe and advantageous. Tartrate of antimony and Sulph. Sodæ were given with advantage for these ends.

Another remarkable symptom was an excessive torpor of the bowels, or difficulty in procuring cathartic operations. Effectual purging was still more difficult to be produced than mere evacuation of the alimentary canal; and required a very free administration of the most stimulating and drastic cathartics. But such purging was followed by a more marked abatement of all the symptoms, than an operation of any other kind. The sweating stage was in general imperfectly formed. Cold water applied in the various ways recommended by authors, was always grateful and refreshing, when the temperature was above the natural standard; or even when this was not the case, if there was a sense of internal heat, with burning in the palms of the hands and soles of the feet. The tepid bath or ablution, was always beneficial. When in the first paroxysm there was free puking and discharge of bile during the hot stage, the intermission was generally perfect and the disease readily removed. In the worst cases, the secretions were locked up, or greatly deranged, and not the least appearance of bile could be seen in the alvine discharges. Vegetable acids were always grateful to the patient, and seemed beneficial. Some benefit was pro-

duced by fresh churned butter milk mixed with water, and by good ripe water mellons.

Such were the symptoms particularly attending the intermittent form of the disease. It was much disposed to become remittent, especially under the improper use of the bark. As the season advanced, the proportion of remittents to intermittents greatly increased; and the former were attended with most of the symptoms characterizing the latter, but more violent and obstinate. Thus a strong full pulse, and oppression about the heart and præcordia, and sickness of the stomach and depression of spirits, were very common and distressing symptoms;—there was also pain in the back and head. The secretion of a tough mucus from the throat, very difficult to cough up, and always disposing the patient to puke when he swallowed any thing, was a troublesome symptom; and was most common in those cases in which the heat of the skin was not much increased, and the thirst not very great, and when the torpor of the bowels was greatest. The insensibility of the bowels to all kinds of cathartic medicines was extreme; and effectual purging was much more difficult to procure than mere evacuation of the alimentary canal. The disease in many instances proved very obstinate, and terminated in the various ways in which violent fevers generally terminate. Subsultus tendinum, delirium, tænitus aurium, and picking at the bed clothes, were common symptoms. The colour of the discharges from the bowels varied from a light green or deep yellow, to a pitch or tar black—the latter was most common, and always followed by relief, both to the feelings of the patient, and the general symptoms of the disease. Venesection and emetics at the commencement of the complaint, were generally beneficial. Tartrate of Antimony with Sulphate of Soda, dissolved in a large quantity of water, was found to be the best emetic preparation. Combinations of calomel and the drastic cathartics, in large and frequently repeated doses, were found necessary to produce effectual purging; and in the more obsti-

nate cases, this kind of purging was found to be the only mode of treatment that was followed by relief. It was very difficul to excite perspiration, and quite impossible when the accumulation of morbid secretions in the primæ viæ was great. But when they were evacuated, and antimonials with free dilution were administered, they were generally followed by a pleasant relaxation of the skin; and a remission of all the symptoms. When the sickness and irritability of the stomach were found to be very great, combinations of the infus. Sennæ with neutral salts and aromatics, were found to be best adapted to the case. When the thirst was great and the skin very dry, compounds of jalap, ipecac and cream of tartar, with free dilution, were beneficial. To excite ptyalism was difficult, indeed almost impracticable; and when excited, it was not generally followed by relief. Subsultus tendinum, delirium, and other nervous symptoms, in the advanced stage, were increased by wine and bark, but were invariably removed by the effectual action of cathartics. Cold water in all modes of application, was a good febrifuge and very refreshing. Tepid bathing, either partial or general, was resorted to with advantage. A solution of common salt was found to mitigate the disagreeable secretion of the throat, and the sickness of the stomach, better than any thing else. In some cases of cool skin and great irritibility of the stomach, Tartrate of Antimony administered in the usual way, to the amount of five or six grains, would, for some time, settle the stomach, but afterwards create spasms of that organ. As a general rule, I found that when the skin was cool, antimonials in any form were prejudicial—occasioning great distress. The disease sometimes commenced in a very insidious and occult manner; and these cases, when not understood and treated boldly at the commencement, most certainly proved fatal. Such cases began with a sense of debility, loss of appetite, frequent, irritating, and fœtid watery discharges from the bowels—small in quantity, and attended with slight pain; the pulse was obscure and small, the dejection of spirits great, and the appearance of the countenance indicative of concern and

apprehension. This depression of spirits and peculiar aspect of the face, were, to the superficial and inexperienced practitioner, sometimes the only tokens of danger. When from the presence of bowel-disorder, the case was either mistaken for a slight dysentery, or a diarrhœa, and the treatment was adapted to that disease, the result was uniformly fatal in a few days, exhibiting towards the close all the marks of the greatest malignity. But when at the commencement, blood to the amount of from 60 to 70 ounces was drawn at several bleedings, and in 8 or 10 hours afterwards, the patient was immersed in a warm bath, and diluent injections with cathartics were administered, the patient was generally restored in a few days. The pulse under the use of the lancet became larger, stronger, slower, or more and more distinct; and the patient in this way was cured without the loss of either much flesh or strength. When there was a disposition to local determination, it was relieved by the free use of the lancet succeeded by blisters. There was another peculiarity attending this fever—viz: It would commence mildly, and the physician hoping to put an end to it at once, would resort boldly to the use of the lancet, emetics, cathartics, &c.—but the disease would daily increase to an alarming degree; the skin would become exceedingly dry and hot, and the thirst very great, with extreme restlessness and delirium. Every bleeding and dose of medicine would appear to increase the symptoms. In such instances, the most decided advantages were produced by the application of cold water. The patients could not be salivated, and when subsultus tendinum supervened, it was removed by cathartics. Such cases generally proved very obstinate. Some patients, several weeks previous to an attack, were in unusually high spirits, and appeared to be uncommonly healthy. Such cases were generally violent. Long exposure to the sun more frequently acted as an exciting cause than any thing else. In cases where the stomach was so extremely irritable as to reject every thing taken into it, and when no external applications could relieve it, and when the injection of the most power-

ful substances would produce no evacuation, I have administered calomel in large and frequently repeated doses with great success; for the only way in which that kind of sick stomach could be relieved, was by exciting the bowels. I found a combination of squills with calomel and drastics, very serviceable when the torpor of the secretory vessels was great; nor did those medicines occasion, even in large doses, vomiting or nausea, but excited chylopoietic secretion, and proved salutary.

The disease had seldom any marked crisis, except by urine, which was secreted generally in very profuse quantities on the remission of the symptoms, and afforded various sediments. Blisters were applied for the purpose of relieving local determinations. If the fever continued high, the blistered surfaces became exceedingly irritable; and when the most soothing and anodyne applications all failed of relieving, and even produced violent pain, the fresh leaves of the Datura Stramonium gave immediate relief, by abating the pain, diminishing the inflammation, and producing suppuration and granulation. When these ulcers continued too long, and resisted the application of red precipitate, the bark and a variety of other medicaments, a weak solution of Sulph. of Iron healed them immediately.

During the prevalence of the fever, I had some cases, in which I could not by any combination of the cathartics of the shop's produce, the *kind* of catharsis I wished—I was at a loss whether to attribute this to the nature of the disease, or to the adulteration of the medicines. They appeared to be good, and were the best that could be procured in the country; but still they failed. Having some knowledge of our indiginous cathartics, I determined to give them a trial. I collected the White walnut bark, the May apple root,* and the Blood root. I made an extract from the first; a spiritous tincture of the second; and powdered the last. The

*Juglans cinerea, Sanguinaria canadensis, and Podophyllum peltatum. Eds.

extract reduced to the consistence of honey, and combined with jalap, ipecac, and Castile soap, operated admirably. These articles appeared to have these advantages over all others—First: That if administered in sufficient quantities, they never fail to operate. Second: That in large doses, they never occasioned troublesome sickness, griping, nor any other bad symptom. Third: That they never produced watery fœtid stools, nor reduced the strength of the patient. Fourth: That in a peculiar manner they allayed irritation. I soon found that this extract could be so combined as to fulfil any indication that existed, much more satisfactorily than any other medicine, and indeed it cured several tolerably bad cases of the fever in a shorter time than usual.

During the prevalence of the epidemic, I examined the pulse in a great number who were either entirely without complaint or but slightly indisposed, and I do not recollect an instance in which it was less than 90 in a minute, and in some it exceeded an hundred. Such was the universal influence of the predisposing cause of the disease.

In October the weather changed very suddenly from hot and dry, to cool and damp, the consequence of which was a great many sudden and violent attacks of entirely a different character, and requiring different treatment from any of the foregoing. The pulse was weak, quick and angry in its stroke; the tongue much loaded; thirst intense; the debility sudden and extreme; and the difficulty of breathing most oppressive; with agonizing restlessness, spasms and pain. Combinations of opium, camphor and calomel, followed by emetics and cathartics, produced in these cases prompt and decided relief.

PECULIARITIES OF THE FEVER OF 1820.

The winter of 1819–20 was very and uniformly cold, and the country healthy. The spring and fore part of the summer of 1820 were also healthy, except a few intermittents in those who had been the subjects of disease the fall preceding.

The summer was dry and warm; but not so much so, as that of the preceding year. The epidemic was much less general and violent, than that of the autumn; and the proportion of intermittents to remittents was much greater. The fever differed but little in its nature and symptoms from the epidemic of 1819. One of the principal circumstances of difference was, that in many cases there was a violent action of the large arteries, without inflammation, pain, increased action or distention of the capillaries. This action was always greatest at the height of the hot stage; at which time it was impossible to get any kind of medicine to produce an effect. This action it was exceedingly difficult to reduce by abstracting large quantities of blood; and in fact, this reduction could not be effected without the assistance of cathartics administered during the remission of the disease. I found that immersing the patient in tepid water, and keeping him there from 30 to 60 minutes, or as long as he could support it, was of much more obvious and permanent benefit, in reducing the arterial action, than the most copious abstraction of blood, and that it had this great advantage over bleeding, that it did not weaken the patient like venesection. But for the cure of the disease, purgatives were principally to be depended upon. Black stools were invariably followed by an abatement of all the symptoms; and for the purpose of producing them, I found a combination of the extract of the White walnut with other cathartics, to have decided advantages over every other formula; but still I frequently resorted to others, for the purpose of fulfiling particular indications. Some cases were attended with the slimy secretion already mentioned, which appeared to extend throughout, and line, the whole alimentary canal; and, together with the remarkable torpor of the canal, rendered the action of medicines in some cases almost impossible. In these circumstances, I found considerable advantage from resorting to powdered egg shells; which, administered in doses of a table spoonfull, by their mechanical and chemical action, brought away much slime, after which medicines operated

well. In some cases, where either through neglect or bad treatment, the patient was brought to the brink of the grave; where constant and convulsive hiccup; weak, irregular and intermitting or absent pulse; hippocratic face; cold and black tongue; insensibility; cold extremities; oppressive breathing; subsultus tendinum—and all the symptoms usually present in the last stage of malignant fever from miasma, and when uniform experience shews the inefficacy of all the narcotic stimuli, and when blisters would not draw; when camphor, volatile alkali, ginger, calomel, and other exciters of the secretions failed, I found very marked benefit, from black mustard seed bruised and infused in a mixture of vinegar and warm water, in the proportion of one part of the former to three of the latter, administered to the patient until it excited puking, which was followed by universal warmth; after which stimulating cathartics and diluents completed the cure.

The disease was followed, in the fore part of the following winter, 1820–21, by the Influenza; in which, besides the usual remedies recommended for that complaint, a free use of the Tinct. Digitalis was found to be very beneficial,—appearing to act specifically, in allaying inflammation, irritation and cough, and in promoting expectoration. The winter proved excessively cold—the thermometer standing, at one time, about thirty-two degrees below zero. Those who had experienced the fever in the fall, and exposed themselves, were subject to attacks of the phlegmasiæ, which were difficult to cure.

The spring of 1821 was very wet and cool, and many of those who had been subjects of the fever of the preceding autumn, were now attacked with intermittents; but they readily yielded to an emetic and free use of the Bark. Vernal intermittents require the lancet and other evacuants least, and yield most readily to the Bark. The summer continued wet, cool and healthy, with the exception of slight bilious diarrhœas, a few dysenteries, and, as the season advanced, some attacks of cholera morbus. About the first of August

the weather became warmer, and was soon quite sultry. Intermittents and remittents, the two last weeks of that month, became common. The fever of this year differed from the foregoing, chiefly in there being, in nearly all cases, an increased action of the large arteries going to the head, and in the presence of several nervous symptoms at the very commencement. It was more confined to the low country, and in many instances had a more malignant character. The pulse varied in different cases; in the early stages, and from being hard, tense, full and strong, it became feeble, quick and irregular. Patients thus affected complained generally of a violent pain in the head, and were delirious. Others were affected with a numbness of the whole, or a part of the system. In this epidemic, more than in the preceding, the arterial action appeared to be nothing more than a symptom of the disease, and, consequently, blood letting was less to be depended on in the treatment. Both this year and the one preceding, I found the addition of pulverized ginger root to my cathartics, when the stomach was irritable, the skin cool, and the excitement partially diffused, to be very useful in allaying irritation, arousing the secretions and diffusing the excitement. I found in cases of weak pulse and violent pain, combinations of ginger, camphor and calomel, as a cathartic, very useful in abating the fever and nervous symptoms. In cases of cold skin, irritable stomach, and great depression of spirits, where the torpor of the bowels was very great, and where the secretion of mucous and slime was abundant, I found the black mustard seed, administered either as an emetic, or so gradually as to be merely an excitant previous to the administration of the cathartics, to be useful. Without such an auxiliary, it seemed to me, that I should not have been able, in many, to produce catharsis.

The use of cold water, during the paroxysm and after effectual catharsis, was found in numerous instances, to have a very powerful effect in mitigating all the symptoms.—Spasmodic pains occurred in this fever, particularly in the thorax, and were very distressing, and rendered the respiration

difficult. The application of flannels, dipped in boiling spirits, to the part affected, was found to afford prompt relief. The application of spirit in this way, as hot as it could be made, neither blistered nor inflamed the part.

Tartar emetic, as a vomit, frequently produced violent effects in the fever of this season. I heard of several cases, where the state of the patient was not properly attended to, in which he died during the operation. I saw several, who were in great danger from this cause.

In the last stages of the disease of this year, as well as that of the preceding, when the extremities were becoming cold, blisters were found to be beneficial as a stimulus.

I found the acid of * Sumach berries, which were very abundant this season, to make an agreeable and useful drink for febrile patients. It was prepared for use by simply immersing the berries, white with it, in cold water; and adding sugar, or not, as the patient preferred.

In cases of violent arterial action, the lancet, when used to a great extent, would mitigate the symptoms of that paroxysm; but unless effectual catharsis was produced in the interval, the next paroxysm would return with increased violence, —and in this way, those who depended too much on the use of the lancet in the cure of the disease, would sometimes find their patients dead in eight or ten hours, after they had been supposed out of danger.

In the intermittents of this year, a combination of opium and camphor, administered half an hour before the chill, very generally prevented it, and induced a pleasant perspiration. The Bark, sulphuric acid, and Fowler's solution of arsenic, were all beneficial in different cases. The tourniquet or ligature was also frequently resorted to with advantage. It was evidently useful in connexion with opium and camphor.

* Rhus Glabrum, of the botanists. The white crystals which cover the surface of its berries, and in the winter contribute to the beautiful crimson colour which they display, appears from the experiments of Dr. Horsfield, to be the bitartrate of potash. The parts within contain the tanno-gallic acid.—See *Select Medical Theses*, vol. 1. Eds.

I neglected to mention, in the history of the preceding epidemic, that I had, in some particular cases, prevented the paroxysm by bleeding in the access. Those cases were marked, in that stage, by great pain in the head and back, and by a tense, labouring pulse. After bleeding, the heat became diffused, and the pulse slower, softer, and fuller; the pain was relieved, and the excitement and blood diffused to the extremities,—thus the paroxysm was prevented.

Notice of the peculiarities in the action of the Extract of the bark of the White Walnut, or Juglans Cinerea.

When reduced to the consistence of thick honey, and combined with jalap or rhubarb, pulver. ipecacuanha and Castile soap, so as to form pills as already stated, it acts as a mild, effectual purgative, without producing sickness, griping, or distress of any kind. Its operation is slow, but certain and efficient, always bringing away morbid secretions, and never producing frequent or watery stools. Its action is peculiar, in relieving irritation, exciting secretion, and preserving the strength of the patient. It frequently acts as an anódyne; affording the restless patient a good night's rest, and not operating as a cathartic till morning. In dysentery it allays pain, relieves tenesmus, stops the frequent discharges, and produces ease. In autumnal fevers, it effectually brings away morbid secretions, without irritating the viscera, and disposes the parts to a healthy action. In dyspepsia it relieves cardialgia, prevents acrid secretions, and keeps the bowels gently open. Finally, in obstinate constipation it operates as thoroughly and certainly as calomel, or the drastic purgatives, without occasioning the sickness and irritation which they excite. Besides the above combination, I have made use of it, in a variety of others,—such as with calomel, ginger and squills, varying the proportions, according to the indications presented by particular cases. Those who have used the various combinations give it the prefe-

rence to any anti-bilious or laxative pills, they ever used. I have always introduced Castile soap into the different compositions, for the purpose of correcting an acrimony which has sometimes been found in it.

I have commonly prepared the extract from the inner bark of the trunk, of a middle aged, healthy tree, in the spring of the year.

SELECTED ESSAYS.

ART. III.—*Staphyloraphe, or Palate-Suture, successfully performed.* By A. H. STEVENS, M. D. Professor of Surgery in the College of Physicians and Surgeons, New York.

[From the North American Med. and Surg. Journal for April, 1827.]

Mr. THOMAS PEARSALL, aged twenty-five years, of Greene county, New York, applied to me in September, 1826, for advice respecting a machine he wished to have fitted for a congenital division of the palate.

The division extended from about the anterior part of the palatine bones directly backwards, in the median line, through the velum pendulum palati and uvula. The retraction of the parts left an opening like an inverted V, with a rounded top; but in the space between the palatine bones, the soft parts projected a little on each side, towards the median line.

I proposed to him an operation for uniting the divided parts, which appeared to be rather separated than wanting. He assented to this, and having, by my advice, arranged his affairs, and provided himself with a person to attend to his wants, he agreed not to speak, or swallow any thing whatsoever, for four days. I performed the operation in the following manner. The patient being seated near a window, and his head thrown back, and supported by an assistant standing behind, I interposed a handkerchief, tightly rolled up, between the molar teeth of the right side, and depressing the tongue with the left hand, introduced with the right hand a curved needle, armed with a thread, passed through an opening near its point. The head of the needle formed a small screw, and was received into a straight cylinder of iron, furnished with a female screw for the purpose. The needle was passed through the lower part of the velum pendulum, opposite the base of the uvula, and on the left side, about one sixth of an inch from the edge. The shaft was now unscrewed, and the needle brought out. The two ends of the thread were then held back at the angle of the mouth, and two

other ligatures were introduced in a similar manner, and then also on the opposite side. With a hawk's-bill forceps, I now seized the anterior part of the divided palate, and inserting a cataract knife about one line anterior to the division, pared of a thin slice of the membrane on each side. One end of each of the ligatures was next tied to one end of the corresponding ligature on the opposite side, and the knot was then drawn through, and divided. The lower ligature was then drawn with a surgeon's knot and a single knot upon it; next, the middle, and lastly, the upper one; and the ends of each cut closely.

The operation lasted nearly one hour, time being given, in the intervals of introducing the threads, for the patient to rest, and recover from the efforts to vomit, which were occasioned by them, and also for the bleeding to cease. The patient, by request, went to bed to prevent hunger, and did not speak, or swallow any thing, for four days, only wetting his mouth with cold water. At the expiration of the fourth day, I removed the threads, and found the parts perfectly united. On the morning of the fifth day, when I visited him, I found he had already taken a bowl of rye mush and milk: no separation of the parts had taken place. An astringent gargle was prescribed. In the afternoon, he ate several pies, and began to speak freely, but not with much improvement in his articulation. Supposing it might proceed from the division of the uvula, the parts of which hung like a swallow's tail from the end of the velum pendulum, I removed one of them. The inflammation soon subsided, and on the tenth day, he came to take leave, being about to return home. The parts were entirely united, and the inflammation scarcely perceptible. The voice was materially improved, but far from being perfect. He felt that the air did not go so much up into his nose as before the operation, or on the first days after it; and that the palate was not so tightly stretched across his mouth as before. Indeed, it was evidently getting further back than it was at first, in consequence of its yielding.

This young man was operated upon in presence of Dr. E. G. Ludlow, of this city, and was visited in the progress of his case by Dr. Hodge of Philadelphia, and Dr. Kissam, of this city. I am not aware, that this operation has been attempted before in this country. The author of it is Mr. Roux, of Paris: he first

performed it upon a Mr. Stephens, a medical gentleman, of Canada. Mr. R. states, that the speech was corrected as soon as the ligatures were applied. It was not so in Mr. Pearsall's case. Mr. R. does not enter into the particular mode of tying the ligatures. Mr. ALCOCK, of London, has also performed the operation, but did not succeed in effecting union on the first trial, except at the lower part of the soft palate; and was obliged to repeat the operation five or six times with threads and with needles, owing, as I conceive, to his applying a single, instead of a surgeon's knot, and to his not preventing the patient from speaking or swallowing until union had taken place. Mr. A. states, that the reason patients do not receive the perfect use of speech, immediately after the union of the parts, is, that they require to be taught to place the tongue against the roots of the front teeth, in making such sounds as *c* soft, *s*, and *th*, and by diligent attention to attain the pronunciation of the different words. I regret that my patient left me before I could test the value of these directions. I apprehend, however, that it is necessary the velum pendulum palati should hang somewhat loosely across the fauces, in order to close the opening of the posterior nares, in speaking. I therefore infer, that Mr. Pearsall will ultimately acquire a perfect power of enunciation.

ART. IV.—*Pharmaceutic experiments and discoveries on Opium*, by ROBERT HARE, M. D. Professor of Chemistry in the University of Pennsylvania.

[From the American Journal of Science and Arts for June, 1827.]

1. *A method of detecting minute quantities of Opium, in solution.*

Through the discoveries of SERTUERNER, it is now well known, that opium contains an alkaline substance, called morphia, to which it owes its efficacy in promoting sleep, and relieving pain: also, that this alkali is naturally in union with an acid called meconic, which produces a striking red colour, with solutions of red oxyd of iron. Nevertheless, this property has not been proposed as a means of detecting opium; which has

probably arisen from the circumstance, that the meconate of iron does not precipitate. I have, however, contrived a method by which a quantity of opium, not exceeding that contained in ten drops of laudanum, may be detected in a half gallon of water.

My process is founded on the property which meconic acid has of precipitating with lead. Hence, by adding a few drops of acetate of lead to any infusion, containing any quantity of the drug in question, not more minute than the proportion above mentioned, an observable quantity of the meconate of lead falls down. The precipitation, where the quantity is small, may require from six to twelve hours, and may be facilitated by a very gentle stirring with a glass rod, to detach the flocks from the sides of the recipient, which should be conical, so as to concentrate them during their descent.

The meconate being thus collected at the bottom of the vessel, let about thirty drops of sulphuric acid be poured down on it by means of a glass tube. Let this be followed by as much of the red sulphate of iron. The sulphuric acid liberates the meconic acid, and thus enables it to produce, with the iron, the appropriate colour which demonstrates the presence of that acid, and consequently of opium.

2. *A method of preparing Denarcotised Laudanum.*

Agreeably to the observations of the French chemists and physicians, the unpleasant effects of opium reside in a principle called narcotine, and Robiquet has informed us, that by digestion in ether, the drug may be depurated of that noxious principle. It struck me, as soon as I became acquainted with the statement of Robiquet, that it was of the utmost importance to humanity to have it tested, and the result made known to my countrymen, if favourable.

Some opium, shaved by rubbing it on the face of a jack-plane, was subjected, four times successively, to as much ether, of the specific gravity of .735, as would cover it, allowing each portion to act upon it for about twenty-four hours.

The opium was afterwards subjected to as much duly diluted alcohol as would have been adequate to convert it into laudanum

of the common kind, had it not been subjected to the ether. In the ether which had been digested on the opium, a deposition of crystalline matter soon commenced. The stopple being removed, and the mouth of the containing vessel (in this case a common French tincture bottle) being covered with blotting paper, in a few days nearly the whole of the liquid evaporated spontaneously, leaving much crystalline matter mixed with colouring matter. The former is, no doubt, the principle distinguished by Robiquet, since called narcotine.

The digestion of the opium with the ether, is conveniently performed in the Papins digesters, which are sold at some of the hardware stores in Philadelphia.

The ether should be kept near the temperature of ebullition.

The first use which was made of the denarcotised laudanum, was by way of an enema of thirty drops, in the case of a child tortured by ascarides, to whom it gave early relief, inducing a comfortable, and apparently natural sleep, and causing subsequently no unpleasant symptoms.

The second instance was a case of severe head-ache, which was relieved in about thirty minutes, by ten drops taken into the stomach. A refreshing slumber succeeded, which was not followed by any of the distressing sensations to which the patient has always been subjected after taking common laudanum.

I subjoin the results obtained, with the denarcotised laudanum, by a veteran in the healing art.

"DEAR DOCTOR:

"When you presented me with some laudanum, prepared from opium deprived of its narcotine, you wished me to inform you in what it differed in effect from laudanum prepared in the usual way. I have tried it in but four cases; all of which, however, were fair ones for its employment, as each had constantly experienced the most distressing effects from opium in every way in which it had been exhibited. I will relate them in order.

"Case I—Was that of a lady, who was suffering severely from a chronic affection of the uterus. In her case, opium, in some form or other, was absolutely necessary; and every form

commonly known was resorted to, with a view of diminishing its terrible after-effects upon her stomach and head, but without success.

"I recommended the denarcotised tincture of opium to her, in a dose similar to that she had been in the habit of using of the common laudanum, &c. The first two or three doses were followed by the common after-feelings, owing, most probably, to the impression of the former forms in which she used the opium not having entirely ceased; for soon after, and to the present time, a period of two weeks, she experienced the most decided relief from pain, without the slightest inconvenience following its use.

"Case II—Is one where severe after-pains followed delivery, and in which every other remedy almost, save opium, was tried without success for their relief. In this case, opium in no shape whatever could be given internally, or even employed externally, without the severest sufferings following.

"The denarcotised laudanum was given with the most entire success, and without the slightest inconvenience following its exhibition. The lady called it the 'divine tincture of opium.'

"Cases III and IV—Were the ordinary cases of opium disagreeing in any form; the exhibition of the tincture in question, in neither case, was followed by any unpleasant feeling.

"From this experience, though limited, I am led to anticipate, the great desideratum in the use of opium is obtained.

"With many thanks for your liberal supply of the article for my trials, I remain, as ever, yours,

"W. P. DEWEES.

"March 25th, 1827."

3. *An easy method of obtaining Meconic Acid.*

If to an aqueous infusion of opium we add sub-acetate of lead, a copious precipitation of meconate of lead ensues. This being collected by a filter, and exposed to sulphuretted hydrogen, meconic acid is liberated. The solution is of a reddish amber colour, and furnishes, by evaporation, crystals of the same hue. A very small quantity produces a very striking effect in reddening solutions of peroxide of iron.

Instead of sulphuretted hydrogen, sulphuric acid may be used to liberate the meconic acid. The presence of the former, in excess, does not seem to interfere with the power of reddening ferruginous solutions. But any excess of sulphuric acid may be removed by whiting, which is not acted upon sensibly by the meconic acid. Yet the acid procured in this way, did not crystallize so handsomely, or with so much facility, as that obtained by sulphuretted hydrogen.

ORIGINAL REVIEWS.

ART. V.—*Commentaries on the Principles and Practice of Physic, &c.* By JAMES MAKITTRICK, M. D. 1772.
Elements of Pathology and Therapeutics, &c. By CALEB HILLIER PARRY, M. D. 1815.

[Retrospective Review, continued from page 51.]

We resume the examination of these works, and shall proceed to show the agreement of the latter with the former.

In Dr. Parry's Elements, three principles are employed in the solution of almost every pathological problem. They are, *Increased general momentum*, *Excessive local determination*, and *Defective determination*. They may occur separately, but are in most cases united. On one or more of these conditions, he seems to think that all maladies depend. Thus, in the first chapter of his book, he treats, in general terms, of "Excessive Momentum or Determination of Blood;" and subsequently he dwells upon "Excessive *general* Momentum of Blood," and its connexion with "Local Determination." His views relative to this connexion may be collected from the 147th, 8th and 9th paragraphs of the work.

"On other occasions, the excessive momentum is succeeded by local determinations, which, from their duration or other circumstances, may be considered as morbid.

"The order of succession of local symptoms of this kind, as connected with constitutional ones, is varied chiefly in the three following ways:

1st. In some instances the local congestion or dilatation first appears, and is followed by excessive action of the heart, and proportionable general momentum of the blood.

2dly. In other instances, the local and general momentum seem to occur together, and to proceed with equal steps. And,

3dly. In other cases, the general increased momentum precedes, and is followed by the local morbid determination.

"It is worthy of being well remembered, that local determinations, following general excessive momentum, do not often occur, till after the

latter has lasted for several hours, and sometimes even days. This is a common order of facts in gout and other local inflammations. Other instances of the same kind, not amounting to inflammation, or generally remarked by authors, will be adduced as we proceed "

He then proceeds to treat of Inflammations, and endeavours to reduce to one principle—excessive local determination, with or without increased general momentum—all the phlegmasiæ of the nosologists, and, indeed, every inflammatory affection. In the course of this discussion we find, paragraph 214, the following recognition:

"The influence of increased or diminished dilatation from excessive or lessened impetus being however established as a fact, many important practical consequences follow.

From Inflammations he advances to Dropsies and Hæmorrhages, all of which he regards as assimilated to the first, by the common circumstances of increased momentum of blood to or in the affected parts. In paragraph 400 he thus expresses himself.

"In the preceding pages an attempt has been made to show a coincidence of action or affection between Inflammation, Dropsy and Hæmorrhage, inasmuch as each of them is the consequence of excessive momentum of blood, whether absolute or relative."

He next discusses the subject of "Simple Excessive Determination, or Fulness of Blood," producing diseases in which there "exists an increase of momentum, short of inflammation." His enumeration here embraces certain dropsical effusions, pains in various parts of the body, different forms of cutaneous redness, certain feelings generally denominated nervous, slow enlargements of glandular parts, cramps and local spasms, dyspepsia, coryza, diabetes, &c. &c.

Proceeding then to the *Nervous function*, he considers the manner in which it is sustained, and may be thrown into disease by the *sanguiferous*. Under the head of "Excessive Determination of Blood to the Brain," he enumerates, vertigo, epilepsy, convulsions, chorea, tetanus, hysteria, insanity, &c. &c., all of which he deduces from that pathological

state; and having spoken in detail on this subject, he comes, at length, par. 854, to make the following declaration:

"In the foregoing pages of this work, I have attempted to shew, that almost all the maladies, incidental to the animal frame, have this very circumstance of excessive momentum of blood, as one important common link in the great and connected chain of causes; that is, of uniformly preceding phenomena."

Afterwards, in closing up the subject, he furnishes us, paragraph 864, with the following table of the "Chief Diseases from increased determination."

"First, excessive determination or momentum of blood to the skin.

"Sweating, scarlatina, measles, erythema, erysipelas, and all the forms of eruptive diseases.

"Secondly, to mucous membranes.

"Coryza, catarrh, whooping cough, croup, sore throat, peripneumonia notha, catarrhus senilis, bronchitis, asthma: aphthæ, dyspepsia, diarrhœa, and various other disorders of the villous coat of the alimentary canal; strictures in the urethra, œsophagus, colon, and rectum; gleet; fluor albus; catarrhus vesicæ.

"Thirdly, to serous membranes.

"Phlegmon; pleurisy; pericarditis; peritonitis of different parts, constituting enteritis, puerperal fever, &c.; inflammation of the tunica vaginalis testis. To synovial membranes, producing arthritis; together with the effects of these several states, anasarca, hydrothorax, hydropericardium, ascites, hydrocele, effusions into joints, adhesion, anchylosis, &c.

"Fourthly, to various other membranes.

"Of the spinal marrow, nerves, paraphlegia, sciatica, tic douloureux, &c. To the epithelion, deafness.

"Fifthly, to glandular parts.

"Cynanche parotidæa, or mumps; swelling and other disorders of the thyroid gland, mammæ, testicles, prostate, and various other glandular parts; phthisis pulmonalis; atrophy.

"Sixthly, to the head.

"Head-ach, vertigo, sleeplessness, common nervous affections, mania, delirium, convulsions, hysteria, epilepsy, catalepsy, inflammation of the pia mater, or arachnoides; together with their occasional sequelæ, hemiplegia, apoplexy, hydrocephalus, and other effusions.

"Seventhly, to other parts in various forms.

"Peripneumony, enlargement of the heart, liver, spleen, kidnies, testicles, and uterus, with or without inflammation; fungus hœmatodes, ophthalmia, cataract, amaurosis.

"Eighthly, various increased natural discharges, not already specified.

"Ptyalism, diabetes, lachrymatio.

"Ninthly, morbid depositions, not above arranged.

"Scirrhosities, indurations, ossifications, chalk stone, biliary and renal calculi, and other hard deposits in different parts.

"Tenthly, hæmorrhages.

"From serous, mucous, or other membranes, or parenchyma; as from the nose, uvula, fauces, lungs, stomach, intestines, kidnies, bladder, uterus, vasa deferentia, skin, liver, &c. To which may be added, the various forms of pupura."

Having finished this, the most important branch of his subject, he comes, in a series of paragraphs, from 867 to 879, to deliver his sentiments on "Defective Determination of Blood," and enumerates several disorders, which he presumes to depend on that condition of the circulation in the parts which they affect. Finally, he treats of "Excessive Direct Determinations of Blood from Cold."

We shall not transcribe the names of the maladies, comparatively few in number, which he conceives to be dependent on these two forms of sanguineous disruption, preferring to conclude our extracts with the following corollaries, contained in his recapitulation paragraph 1015.

"Thus have I endeavoured to shew—

"First, that the far greater number of the diseases incidental to the human frame, depend, at some point or other of that succession of antecedent circumstances, which constitutes the chain of causes, on excessive momentum of blood, whether local or general.

"Secondly, that this momentum is not, necessarily, always excessive absolutely,—that is, in relation to the usual state of perfect health in the mass of mankind; but relatively to the state of the individual at the period given."

After these transcriptions from the Elements of Dr. Parry, we proceed to quote such parts of Dr. Makittrick's Commentaries as may seem necessary to sustain our assertion, that the leading ideas of the former were borrowed from, or at least are to be found in, the latter. Dr. M.'s 5th Book, p. 265, opens with a table of simple proximate causes, which he throws into several divisions. We shall extract the following titles, from the 1st division:

I. FAULTS OF MOTION—WHICH ARE,

1. *Progressive Motion* increased,
2. *Progressive Motion* diminished.

II. FAULTS OF DETERMINATION—WHICH ARE,

1. *Determination* suddenly diminished,
2. " slowly diminished,
3. " suddenly increased,
4. " slowly increased.

To this synopsis immediately succeeds the following

PROPOSITION.

"As the healthy exercise of the vital functions, so far as it depends on the circulation, is supported by the regularity of the progressive and intestine motions of the blood, and by a due determination of it to the different organs; and as the proximate causes of many internal diseases, and the effects of many of those that are called external, arise from, or are supported by, excess, defect, or irregularity of circulation; an accurate knowledge of the nature of diseases depends on their being well understood." p. 266.

He proceeds to expatiate on the causes, signs and effects of Increased Progressive Motion. Among the last he enumerates, an inflammatory diathesis, ardent and inflammatory fevers, and suddenly increased determination, to particular organs producing congestions and subsequent inflammation. p. 281.

The Increased General Momentum of Dr. P. is nothing else, than this Increased Progressive Motion of Dr. M. under another name.

Dr. M. goes on to the consideration of Diminished Progressive Motion, and speaks of the causes, signs and effects of that state; but we shall extract nothing from this portion of his book, choosing rather to proceed to the part which treats of Faults of Determination. This branch of his subject extends through no less than 272 pages, and nearly closes the volume. We have read it with pleasure and profit; for it abounds in important observations, both theoretical and practical.

The following extracts set forth his general views of this subject.

"When the body is in health, every part of it receives its determinate proportion of humours, with regard not only to the quantity, but also the degree of motion with which it is transmitted; each organ receiving the peculiar humour destined for it, and no other.

"These proportions do not depend so much on the bulk of the organs, as on their different structure, nature and offices.

"Thus the lungs, though not equal in bulk to one-sixth part of the body, yet circulate as much blood within the same space of time as all the rest of the organs; and Dr. *Haller* computes, that the brain receives one-third of the whole mass; though in bulk it does not exceed one-eighth of the solid parts. This shews that the blood is determined with more velocity to some organs than to others; owing probably to the combined causes, of the degree of proximity to the heart, the structure of the organ, the diameter of the transmitting vessels, and probably to certain habits impressed, *ab origine*, by the hand of the Creator.

"In like manner we remark, that in health, every organ receives and prepares its peculiar humour; the liver the matter for secreting bile; the kidnies that of urine; the uterus the menstrual blood; the mammary glands the milk, &c.

"It is evident therefore, that in a morbid state of the body, many perversions of the functions depend upon faults in the determination; and as this is a subject that has scarcely been touched upon by pathologists, though in itself of great importance, I shall consider it more minutely. Healthy determination therefore depends on the following circumstances.

"1st. *The quantity of humours determined being neither too great nor too small.* If too great a qantity of blood is sent to an organ, its vessels will be distended, and its bulk increased: if the quantity is too small, its vessels will contract in proportion, and the bulk of the organ will be diminished.

"2dly. *The degree of force or impulse with which it is determined being sufficient.* If the impulse is too great, the part will become red, painful and tumid; if the impulse is weak, it will become pale, and its bulk will be diminished. An instance of the former we have in an inflammation of the leg; and of the latter in an atrophy or wasting of it; in such and similar cases, the quantity is generally in proportion to the impulse.

"3dly. *On the humours passing in proper quantity, and with sufficient facility, through the different canals of the organ.* Thus, though the liver has its proper quantity of blood sent to it by the arteria hepatica and vena portarum; yet if a part of this blood either hesitates in the ends of the sanguiferous arteries; or if the lateral serous arteries do not receive their due proportion of thin humours, for the secretion of the bile, or the nourishment of the organ; or if the bile, after being secreted, does not pass off readily by the excretory ducts, or passes off in too great a quantity; there is in all these cases as much a fault of determination, as if the blood sent to this organ were either excessive or deficient in quantity; or

its impulse too great or too small. The instances now given may be applied to any other organ of the body; and will be sufficient, with the subsequent remarks, to give a just idea of this matter.

"Morbid determination therefore, may depend not only on the quantity of humours sent to an organ; or the impetus or motion with which they are transmitted thither, being too great or too little; but also on some excess or defect of its motion or distribution through all its canals or cavities; or of the quantity or motion of the humours from the organ, either into the general circulation, or for the purpose of excretion.

"This tendency to morbid determination did not escape the notice of *Hippocrates*; who, in his remarks on a particular species of the typhus, or low fever, observes, that this disease was determined chiefly to the liver and the head.

"*Sydenham* denominates the fevers of particular constitutions, comatose, pleuritic or dysenteric; according to the morbid determination to particular organs: *Hoffman* asserts, that the fatal termination of fevers, is generally owing to a congestion in, and sphacelus of the internal viscera; and *Morgagni's* Dissections afford us many proofs of morbid determination.

"I have divided determination into diminished and increased; and these are again subdivided into the sudden and slow; but this is done rather for the sake of perspicuity, than on account of their being distinct from, or independent of each other; for the contrary is really the case.

"In health, there is a certain dependence of the organs and their functions upon each other; and the same correspondence which supported them in health, is the eventual cause of their being disturbed by the causes of diseases.

"This correspondence or co-operation, both in health, and under disease, has been explained in the former parts of the work; and healthy and morbid determination depend chiefly upon it.

"In the following tables I have placed diminished determination before that which is increased.

"As diminished determination is owing to that excess of power in the cavities or orifices over their contents, that the latter can not, either with respect to their quantity or motion, or both, distend their cavities sufficiently for the purposes of health: so increased determination, on the other hand, depends on the quantity or motion of the contents, or both, being so great, as to overcome the necessary and healthy resistance and counteraction of the cavities or orifices to their contents.

"I have in the first part of pathology, considered simple causes; here we have those causes variously combined, as they constitute the proximate causes of almost all the diseases to which the human body is subject.

"This therefore is a most important branch of pathology, comprehending a summary view of a great number of diseases.

"*Diminished determination* depends on the contents of cavities being received in less quantity, or with less force than in health; and increased determination, on the quantity, or impetus, or both, being too great.

"The general causes of diminished determination are such, as either render the passage of the contents of cavities or orifices less free than in health, by lessening the diameter of those cavities or orifices; or by promoting the passage of the contents in a greater degree than usual, into other canals or cavities; so that less is received into the proper channels.

"An instance of the first we have in rigor; which prevents the ordinary quantity of humours from passing into the superficial vessels of the skin; and diarrhœa is an example of the second; so far, as by increasing the fluction upon the intestinal canal, the determination to the surface is proportionably lessened.

"But as the changes produced in the animal œconomy, by these and other similar means, must be very great; *diminished determination* is necessarily a cause of another species of determination different from the former; and which I have therefore called *increased determination.* For the contents of cavities, retarded or intercepted by diminished determination, must necessarily either stagnate, and be accumulated near the portion of cavity that is straitened; or they must pass into other cavities, where by their bulk, motion, or both, they must create disturbance in the functions, in proportion to this excess, and their degree of irritability; or they must force open, and pass off by some orifices or emunctories, and be entirely discharged from the body.

"An example of the first we have in fever from obstructed perspiration; and of the latter in diarrhœa from the same cause. In these and similar cases the effect will often be more violent and dangerous than the cause; and diminished determination will be only the efficient cause of a beginning disease; the progress and termination of which is supported by increased determination.

"On the other hand, increased determination is often the cause of diminished determination; as when an inflammation of the lungs or kidnies diminishes expectoration, or secretion of the urine; or these proximate causes may act alternately in various parts of the system; as in the rigors and flushings in nervous diseases and fevers; and the successive diminution and distension of cavities in convulsions.

"But as there are various degrees in the action of morbid causes, and consequently in their effects, I have divided each species of determination into sudden and slow; because the diseases they produce are in many respects different in their nature and method of cure.

"I have divided the chief causes, signs and effects of morbid determination into two tables; where the reader will find a pretty accurate syllabus of the most essential circumstances relating to a very great number of diseases.

"The contents of these tables are so manifold and complicated, that the arrangement of them has been the cause of much labour and perplexity; and as they are the foundation of the nosology, and ought therefore to be accommodated to the nature and proximate causes of more than a thousand different genera and species of diseases; the difficulty was greatly increased; and as the attempt is, so far as I know, entirely new, no man who has not been employed in a similar mode of investigation, can possibly have any idea of the nature of the task. This observation is not obtruded on the reader with a view to enhance the merit of the work; but to bespeak his candour and indulgence for its defects, which are indeed unavoidable: could I have foreseen the difficulties that would necessarily have attended the execution of the plan, I certainly should never have undertaken it: but after bestowing much labour and time in the research, it became in some sort necessary to complete it.

"As the diseases of cavities are intimately connected with, and indeed depend upon, morbid determination, I have treated of them together: for though determination or afflux, is, properly speaking, an appendage of circulation; and the term is never applied to any condition or change of the larger cavities, or their contents; yet there is so great a similarity between the causes and nature of their diseases, that they may very properly be considered together. One advantage to be derived from this arrangement will be, that besides their tending mutually to illustrate each other; we shall thereby find that the proximate causes of diseases are neither so complicated nor so various, as might be suspected from the ordinary method of pathological and nosological arrangement; and that the causes of morbid disproportion between cavities and their contents are pretty much the same; whether the cause subsists in the stomach, or in an artery; in the intestines, or the secretory tubuli of the kidnies.

"I have considered cavities as being præternaturally diminished or enlarged, either from some faults of their fibres or contents.

"This change in the state of cavities is the very foundation of morbid determination; nor can it take place without such changes.

"But as cavities either transmit their contents into other cavities, or discharge them entirely out of the body; it was necessary also to consider the various faults of their terminations or orifices; because they are equally concerned with their cavities in the changes of determination; and contribute to the production of many diseases." pp. 323—330.

From a paragraph of this quotation, it appears that Dr. M. was deeply impressed with the great truth, that if there be Diminished Determination to one organ, there must, of course, be Increased Determination to some other; and consequently that both pathological states necessarily co-exist.

Hence, as he avows in another place, it is often difficult to decide in reference to particular diseases, whether they should be classed under the head of diminished or of increased determination. On the whole, however, he judiciously looks upon the former state as morbid, chiefly by creating the latter, which is to be regarded as the most pernicious part of the disease. Hence, considering diminished as the great cause of increased determination, he presents it first to the notice of his readers, and dwells, at length, upon its character and consequences. The latter are enumerated in the following table:

EFFECTS OF DETERMINATION.

SUDDENLY DIMINISHED.	SLOWLY DIMINISHED.
A Irregular circulation.	A Various degrees of debility of the vital powers and consequent diseases.
B Nervous diseases, spasmodic or convulsive.	B Various degrees of debility of the nervous system and consequent diseases.
C Increased determination and all its effects.	C General atrophy or marasmus.
D Fever.	D Rigidity, stiffness or immobility of particular joints, sometimes with atrophy of them.
E Retropulsion of exanthemata, critical or morbid.	E Slow gangrene or sphacelus.
F Depravation of the qualities.	F Diminished progressive motion.
	G Depravation of the qualities.

p. 334.

His illustrations of these effects deserve to be transcribed. They are as follows:

EFFECTS.

"A *Irregular circulation.* When determination into and through the vascular system of an organ is checked to any considerable degree, the first and immediate effect must be a morbid change of the circulation through the vessels affected; and a greater flow of the humours into those that are contiguous, and still free for their reception. If they pass easily, and do not stimulate by their quantity or increased impetus, no disease is produced, but the balance is soon restored: but if the vessels into which the surplus humours are thrown, are irritated thereby, they react in proportion to the distension; and in their turn become spasmodically constricted or convulsed; and thus the evil is gradually extended, until the heart itself is præternaturally stimulated; either by painful

sympathy, or by the quantity and resistance of the redundant blood, excluded, as it were, by a variety of spasms, in different parts of the circulation. This seems to be the usual progress towards irregularity of circulation, from diminished determination; and the effect will be more or less sudden and violent, according to the extent of it, the degree of irritability, and the nature and degree of the cause.

"If it is but small, and happens in an organ that is not very irritable, its effects will not be immediately felt, though they may be lasting, and in the event dangerous and extensive; as when obstructed circulation through a part of a cavity, by first producing slowly diminished determination, is the cause of congestion in the vessels of that very organ; and at length in others more distant. In this way indolent tumours and visceral obstructions are probably formed, and in some such way the secretions and excretions become gradually more sparing in some chronic diseases; the secretory tubuli being clogged by the viscid humours which are unfit to pass the secretory strainers: hence one cause of slow obstructions of the lungs, liver, mesenteric glands, coats of the stomach and intestines, and of the uterine vessels that separate the menstrual blood.

"But if the diminished determination happens in irritable organs, the distracted nerves excite the fibres of the cavities to morbid contractions, and the evil is increased very quickly, and soon becomes general.

"Hence we can account, why nervous symptoms are so soon, and so powerfully excited in irritable habits; and why they pass with so much celerity from one part of the body to another, every change in the determination producing new spasms, or convulsive oscillations; and these again fresh irregularities of the circulation: hence it is that long continued and violent *cramps*, *tetanus and convulsions*, sometimes produce *hæmorrhages*, *sugillations*, *blackness of the face*, &c. and at length destroy, by throwing the blood with extreme violence upon the brain, or some other principal organ.

"Upon this principle we can easily account for the numerous train of diseases enumereted under the cause *a*, G. 3. though many of them may be owing to increased determination upon the organs secondarily affected, and not always to pure sympathy, or an instantaneous communication of disagreeable sensations from one organ to another, before it is possible for an increased determination to take place. Thus *spasmodic anxiety*, *hysteric asthma*, *the nausea and colics of breeding women*, *the violent head-achs* from affections of the stomach, and many others, may be partly owing to sympathy, partly to a greater quantity of blood being determined into the vessels of the organs: a manifest proof of the latter we have in *hæmoptoe* and *vomiting of blood*, from a *suppression of the menses*. The only way in which we can distinguish that produced by sympathy, from the other, is the celerity with which it is produced, and its not being permanent.

"But if the cause acts violently and permanently, the effect will be equally lasting.

"Hence we can account for the production of *fevers*, *inflammations*, *hæmorrhages*, &c. by diminished determination; which by producing increased determination, is really the parent of a great number of diseases.

"B *Nervous diseases spasmodic or convulsive.* We can easily account for the production of these, from what is said page 114, and from my Remarks under *a* and *b*, Gen. 1.

"C *Suddenly increased determination and all its effects.* This is the immediate effect of suddenly diminished determination; and consequently the chief cause of the manifold diseases arising from the combination, or rather succession, of these causes; for, as I remarked before, suddenly diminished determination is not a disease; any farther than as it creates a morbid determination to other organs.

"D *Fever.* This is one of the chief diseases produced by the violent and quick succession of increased determination, to suddenly diminished determination: for morbid distension of the vascular system, and the increased action and contraction of the heart thereby produced, are as much effects of diminished determination in that organ, as febrile rigor, anxiety, or nervous spasms, are effects of it in other parts of the circulation. For as the latter are the effects of a constitutional effort to exclude, or throw off, a morbid stimulating cause, so are the former; but not, as the *Stablians* alledge, conducted with that degree of regularity or sagacity, we should expect from their supposed *superintendant*, the *soul.*

"Fever, in general, is not a simple disease; but when violent, or if it runs out to some length, it is really an effect of several different proximate causes.

"Its first stage generally commences with suddenly diminished determination; this is succeeded by the combination of suddenly increased and diminished determination, and increased progressive motion; and whether it ends favourably or fatally, the symptoms of the last stage generally depend on increased determination.

"As fever therefore, may with equal propriety come under this, or the next Table, I shall confine my observations upon it chiefly to this Table; though these will be but general; as I shall reserve my remarks on particular fevers to the Nosology.

"When we inquire into the nature and proximate causes of fever, we find that its very existence depends on morbid determination, diversified by temperament. This is evident from the symptoms which accompany different fevers.

"In a person of a *firm habit*, though there may be no rigor, or other apparent sign of diminished determination at the access of the disease, as is sometimes the case in fevers from violent exercise or drunkenness; yet the diminution of the excretions, as is evident from the thirst, dryness of the mouth, throat and tongue, constipation, paucity of the urine, &c. shew, that the determination into the secretory, and through the excretory canals, is less than it ought; and this generally in proportion to

the degree of fever. If the fever in such a temperament begins with rigor, the violence of the hot fit is generally in proportion to the degree and duration of the rigor; and the symptoms of diminished determination which take place in the advance of the disease, are generally in proportion to the violence of the hot fit: in like manner we remark, that the symptoms of increased determination succeeding these, whether they are morbid and dangerous; as pains, delirium, &c. or critical and salutary; as hæmorrhages, sweat, diarrhœa, &c. are nearly in proportion: the former being violent and speedily fatal; the latter early, copious and complete.

"When the *temperament is delicate and irritable*, the symptoms of diminished determination are more frequent; but they are less violent, and do not continue so long; and therefore the symptoms of increased determination are in proportion less severe, and more fluctuating: it is for this reason, and on account also of the languor of the vital powers and circulation, that the secretions and excretions are not so much, nor so constantly diminished; and are even sometimes very profuse; and that the crisis of the fever is protracted, tardy and incomplete.

"If a person of a *phlegmatic temperament* is seized with a fever, and the morbid stimulus is not very great, neither the symptoms of diminished or increased determination will be severe or permanent: because want of irritability prevents the former, and the small degree of diminished determination, and the languor of the vital powers, will prevent the latter; so that the fever runs out to a great length: the symptoms of danger are obscure, because the morbid accumulations in the viscera are formed very gradually: and the crisis will be slow and imperfect, because the morbid changes of determination are so weak as not to excite the constitutional efforts sufficiently to remove their effects: I say *sufficiently*, because though diminished and increased determination are, in their consequences, often real evils; yet they are at the same time necessary instruments of the constitution, in removing a morbid cause; and when not sufficiently strong, they may be as injurious as when too violent.

"This is a simple idea of the effects of morbid determination in the fevers of different habits, when the febrile cause is simple; but these effects are often very different, when acrimony or contagion are occasional causes; and the progress and aspect of the fevers, as we shall see hereafter, will often be very much changed: much also will depend upon the method of treatment.

"E *Retropulsion of exanthemata, critical or morbid.* The species of diseases enumerated under the occasional cause B *b*, are a proof of this being a frequent effect of suddenly diminished determination: gouty or rheumatic matter, shifting from the extremities to the internal organs, produce similar effects.

"F *Depravation of the qualities.* This will be explained in a subsequent table.

PROGNOSTIC.

"In treating of the prognostic in this complicated and very important branch of pathology, I shall consider—the *causes*, *signs and effects*; the nature of the *matter*, the determination of which is either prevented or determined, or repelled again, from the organ in which it had been either morbidly or critically deposited; the nature of the *organ* in which the diminished determination takes place, and of that to which determination is consequently increased; the *duration* of both determinations; the *habit of body*, and the state of the *vital powers*.

"Diminished determination is not, properly speaking, a disease, if we consider it as independent of its effects: for it is proable that it happens very frequently, and without producing any disease, or even sensible inconvenience.

"As the body is exposed to the action of a variety of non-naturals, it is often impossible so to regulate their action, as that no unfavourable change shall take place; and on this circumstance, joined to the susceptibility of the body to be disordered by them, depends the precarious state of the health. But though various constrictions may, and perhaps do, take place daily, nay, hourly, not only in the circulating system, but in the large cavities, in consequence of slight præternatural stimulus; yet as neither the cause nor the effects are either violent or lasting, the innate powers of the constitution are sufficient to restore the determination.

"Or the effects, though morbid and apparent, may be slight; as in the disagreeable feelings of nervous patients, and in slight colds from obstructed perspiration, or impeded excretion from the glands of the nose, larynx or aspera arteria; and also with respect to some of the other secretions and excretions; as in slight jaundice from a spasm of the biliary ducts, diminished secretion of urine, from slight spasms of the urinary ducts; or of the lochia or menstrua for a few hours, from any slight cause, lessening the determination of the blood into and through the uterine vessels.

"In all these and similar cases, the increased determination is in proportion to the diminished determination; so that when the former is slight, the latter is so likewise.

"Diminished determination may even sometimes be salutary. Thus rigors often precede constitutional efforts to establish a crisis, either by some evacuation, or in the formation of pus; and indeed so far as we can reason on this circumstance, it seems to be extremely well adapted for producing any great critical change in the constitution; insomuch as, by intercepting the current of circulation in certain organs, it may be determined, with additional impetus, upon those in which the morbid matter is to be deposited, or from whence it is to be discharged. pp. 362-369.

Relative to slowly diminished determination, we shall extract only the following general remarks:

"If the humours are not determined in due quantity, and with proper impetus, into the cavities, whether from a deficiency of the propelling power, too great resistance of the sides of the cavities, or from the humours being determined elsewhere, the size of the organ must be diminished, and its nutrition deficient. From one or other of these causes proceed *marasmus*, *tabes*, or *atrophy*, in general, or of particular parts, and *contraction*, stiffness and extenuation of particular joints.

"As slowly diminished determination is often an effect of languid circulation, and of weakness of the vital powers, I have placed the principal diseases or symptoms arising from debility of the heart under this head; and also because these diseases have an intimate connection with debility of nervous power. Thus *asthenia*, *leipothymia*, *syncope* and *asphyxia*, depend as much on deficiency of the nervous power, as on defect in the contraction of the heart. These diseases often arise from morbid determination to various excretory organs, and consequently a deficiency of determination to the heart: for, as I remarked on a former occasion, a sense of sinking, or *syncope*, at the region of the heart, with a weak pulse, is as much a symptom of diminished determination of the circulation to the heart, as *rigor* or *atrophy* are of its not being sufficiently determined into the superficial vessels; for there is no part of the body, even the heart itself, that is exempted from the faults of determination." pp. 436–437.

Many of the diseases enumerated under this head are the same with those which Dr. Parry has referred to Defective Determination. We shall not stop to indicate these identities; but pass to the subject of Increased Determination. As we have already seen this is either sudden or slow, Dr. Parry embraces both under the head of "Simple Excessive Determination." Dr. Makittrick perceived the difficulty of classing the diseases of increased determination under these two heads. The intimate connexion between the causes and effects of the states of suddenly and slowly increased determination, creates, says he, considerable difficulty in the arrangement:

"1st. Because the effects of slow congestion may be so changed in their nature, as to produce diseases that evidently depend on suddenly increased determination; instances of which we have in chronic cholics when they become inflammatory; in indolent tubercles of the lungs, and other chronic obstructions, when they inflame and even imposthumate.

"2dly. Inflammation which depends on suddenly increased determination, may end in schirrus, ulcers and fistulous discharges; which be-

ing evidently chronic, cease to have the same nature as inflammation, and can not therefore belong to the same Ordo. Many other instances might be given of a similar kind." p. 481.

The long excerpts which we have already made from Dr. M.'s work, leave us but little space for additional extracts. He divides the diseases which arise from, or are connected with "Determination suddenly increased," into two orders, and these into several genera:

"1st. *Those that depend upon sudden distension of cavities*, which I shall divide into,—1. *Genuine inflammations.*—2. *Inflammations from acrid matter.*—3. *Inflammatory congestions accompanied with putrid or malignant fever.*—4. *Imposthumations, gangrene and ulcerations, effects of various degrees of inflammation.*—5. *Painful congestions in particular organs, and sometimes inflammation.*—6. *Congestions in particular viscera from general fever.*—7. *Efflorescences, tumours and eruptions:* these are again divided into *benign and malignant.*

"2dly. *Those genera and species of diseases that depend upon sudden distension of orifices with increase of the discharges:*—and these are again divided into those, 1. *Of blood.*—2. *Of the intestinal and other excretions.*

"As these several classes of diseases are the effects of increased determination upon particular organs, they either immediately, or secondarily, proceed from diminished determination as a radical or accidental cause. Thus, as I have shewn in Chap. VII. fever, inflammation, and various other effects of suddenly increased determination, are produced by suddenly diminished determination; and as these again have their peculiar effects, they necessarily come under this head. Thus all the effects of fever, whether owing to congestions, or increase of the natural excretions, or to the production of new or præternatural discharges, have a place here. For the same reason all such diseases as proceed from inflammation as a cause, as imposthumation and gangrene, &c. all such as in their nature or symptoms have an affinity with inflammation, or by their violence or duration become of an inflammatory nature, may, without any impropriety, be classed with them. There are, however, many species of diseases which being of a putrid or malignant nature, do not admit of the same method of treatment as inflammation, yet they necessarily have a place here; not only as effects of suddenly increased determination, but as they often partake of an inflammatory nature in different degrees." pp. 482–483.

The reader has but to supply the species which belong to the above genera, to have before him a catalogue nearly identical, as far as it goes, with the list of the "Chief Disea-

ses from Increased Determination" already extracted from Dr. Parry's work.

The whole of this chapter on "Determination suddenly increased," abounds in important observations and profound views; but we must omit extracts. We shall remark, however, *en passant*, that the subject of congestion, which enters so largely into the composition of our latest works on pathology is here treated in a manner creditable to the author, and instructive even to the reader of the present day.

The last chapter of the work before us is on "Determination slowly increased." To this pathological head he refers:

"1st. All congestions in, or slow enlargement of, internal organs. 2dly. External tumors, excrescences, eruptions or exanthemata. 3dly. Slow discharges of blood from the ordinary organs, or by extraordinary outlets. 4thly. Slow increase of the grosser or finer excretions." p. 549.

We shall trouble the reader with no more extracts, but conclude with the following comparative statement of some of the chief proximate causes which are common to the two works under review. We shall place them in corresponding columns.

Doctor Parry's pathological states:	Doctor Makittrick's pathological states:
1. *Excessive general momentum.*	1. *Increased progressive motion.*
2. *Simple excessive determination.*	2. *Determination suddenly or slowly increased.*
3. *Defective determination.*	3. *Slowly diminished determination.*
4. *Excessive direct determination.*	4. *Suddenly diminished determination*, necessarily producing *Excessive Direct Determination.*

Both works conclude with a short recapitulation. In that of Dr. Parry we find the following sentence:—"For the pathological opinions [of this work] I am *solely* responsible, except where the obligation is expressly acknowledged."—But after the exhibition of close resemblances, between the doctrines of this gentleman and those of Dr. Makittrick, it is impossible to receive this declaration without distrust. All the evidence furnished by the books themselves is against it;

and when we add to this the fact, already announced, that Dr. Parry was the successor of Dr. M. in the same city, we are almost compelled to believe, that he must have read and used that gentleman's writings. It is far from us to seek an occasion or the means, of detracting from the reputation of Dr. P. whom we have regarded as an ornament to the Profession; but the grave has swallowed up the archetype as well as the imitator, and their claims on the justice of posterity are in all respects equal.

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[*It is our duty to acknowledge, that for the copy of Dr. Makittrick's book, which we have used, we are indebted to the extensive and valuable library of the Medical Department of Transylvania University.*—EDS.]

SELECTED REVIEW.

ART. VI.—Memoire sur les Tumeurs Blanches des Articulations; recueilli à l'Hôspital de la Pitiè, dans les Salles de M. Lisfranc, &c.—*Archives*, Mai, 1826.

A Memoire upon White Swellings of the Joints, &c.

[From the Medico-Chirurgical Review, No. 26.]

Although we can not expect much novelty on the subject of white swellings, after the investigations in this country by a Russel, a Crowther, and more especially a Brodie; yet it will not be uninteresting to know the opinions, the researches, and modes of treatment of M. Lisfranc, who has talent to observe, and a wide field for observation. We shall therefore present our readers with a brief account of the present memoir, omitting the detail of cases, amounting to twenty two in number.

Our author defines white swelling to be an *engorgement*, generally slow and dense, of the soft parts forming or surrounding the joints—with or without alteration of structure in the bones and cartilages. M. Lisfranc's observations lead him to believe that the disease may commence in any one of the tissues of the joint—but that it generally begins in the ligaments, the cartilages, or the bones, whence it spreads more or less rapidly to those structures which are most contiguous.

M. L. divides the disease into two classes—idiopathic and symptomatic. He thinks the minute divisions and distinctions into which Mr. Brodie has gone, are useless, if not injurious.

Idiopathic white swelling is that which succeeds external violence, in an individual otherwise healthy. This class, M. L. avers, is equally as common as the other, whatever may be said to the contrary. This species always begins in the soft parts. The *symptomatic* white swelling is that which grows up under the influence of a morbid constitutional affection, as scrofula, gout, and rheumatism. These are the *only* diseases to

which he could trace white swelling. Authors, however, have endeavoured to connect it with small-pox, measles, syphilis, the suppression or retrocession of other affections, &c. This species may commence either in the soft parts of the joint, or in the articulating extremities of the bones. In the beginning, both species are attended by inflammation, whether acute or chronic—but arrived at a certain epoch, that is, when the tissues are reduced into one homogeneous, or lardaceous mass, there is no symptom of inflammation to be seen, except the *swelling*, which is far from being a proof of that process. The symptoms are the same, both in the symptomatic and idiopathic species, when the disease commences in the soft parts; symptoms so well known that M. Lisfranc does not stop to describe them. He observes, however, that when the disease is produced by rheumatism or by external violence, the form of the inflammation is generally acute—though never so rigid in its march as common phlegmonous inflammation. The skin is rarely reddened. We come, therefore, to the pathology—or morbid anatomy of white swelling.

Pathological Anatomy. Six cases came under M. Lisfranc's observation, where the patients were cut off by other diseases, at a more or less early period of the white swelling. In all of these, the alterations were of the *same kind*—and only differed in respect to *plus* and *minus*. But to proceed from the surface to the interior. The skin was sound and free from inflammation in most of these cases—so was the subjacent cellular membrane, except that it contained a small quantity of serous infiltration, and was itself rather thicker than in a sound joint. Beneath this was found a yellow stratum more consistent than the cellular membrane, and interspersed with a number of vessels carrying red blood. In this stratum too, M. Lisfranc sometimes observes small tubercles. Still deeper, as the ligamentous structure was approached, this cellular bed or stratum became indurated, lardaceous, and resistant to the scalpel. The articular ligaments were distended with a liquid more or less consistent, and sometimes gellatinous. The capsular ligaments or bags were of a reddish colour—often much thickened, and containing a fluid of variable consistence. In two or three instances, M. Lisfranc found the articulating ends of the bones diseased—

being increased in volume, softened in substance, and turned of a yellow colour. The cartilages participated in this state.

The following was the morbid anatomy of amputated members—that is, of the advanced state of white swelling.

The skin was sometimes thicker, sometimes thinner than natural—cellular membrane indurated, lardaceous, and confounded with the ligaments and capsular bags—the neighbouring portions of muscle pale, extenuated, and the interstitial cellular substance more or less infiltrated with albuminous matters—the trunks of nerves in the vicinity appeared enlarged and harder than natural—the veins dilated and varicose—the arteries enlarged, and their tunics thickened—depots of purulent matter more or less numerous—ulcerations of the cartilages and denudations of the heads of the bones—capsular ligaments thickened or ulcerated—the bones tumefied, carious, softened. In the most advanced stage the whole joint is often a confused mass, in which it is almost impossible to recognize a trace of natural structure, except the tendons, and some portions of muscle.

In respect to diagnosis we need say nothing, as the disease can not be mistaken. The prognosis is grave—except where the white swelling is idiopathic; or owing to rheumatism, in which cases there are hopes of cure, unless the state of disorganization is very far advanced indeed. The scrofulous white swelling is, of course, the most dangerous.

Treatment. Whether the disease commences in the hard or in the soft parts, it matters not, as far as the treatment is concerned—it is the same in both cases. M. Lisfranc avers that the acute inflammation of white swelling is never removed at once—it always terminates in the chronic form of the disease, and it is through this process alone that a cure is to be expected.

In the first place, whether the white swelling be acute or chronic, it is necessary to examine into the state of the thoracic and abdominal viscera. If there be any organic disease, in either of these cavities, it will be dangerous to attempt a cure of the white swelling. M. Lisfranc has repeatedly seen the visceral disease, in such cases, increase proportionally as the local affection yielded. Under these circumstances, we are advised

by our author to content ourselves with combating the more urgent symptoms only of the white swelling, while we direct our attention to the more important visceral malady.

When there is nothing in the constitution to forbid the cure of the local disease, the first thing indispensible is absolute rest of the part, without which, nothing can be done. Anchylosis is always a probable effect or consequence, and therefore the position of the limb should be such as may render that event as little detrimental to the patient as possible. In order to prevent anchylosis, however, our author advises the practitioner to gently bend and extend the member every two or three days, when this can be done without giving or increasing the pain. Whenever gentle motion produces this effect, we may suspect that the process of anchylosis has commenced, and then we are to endeavour to promote rather than retard it. When purulent depots have formed, they should be opened and evacuated as speedily as possible.

Acute White Swelling. General and local depletion ought here to be employed in proportion to the acuteness of the inflammation, and the strength of the patient. In the course of the first eight or ten days, two general bleedings should be taken, and from 30 to 50 leeches applied every two or three days. Fomentations and cataplasms are recommended in this stage to be assiduously employed, well impregnated with opium, after each sanguineous depletion. The regimen should, of course, correspond with the other antiphlogistic measures.

In the majority of cases, these means will, in the course of ten days, reduce the acute inflammation, and bring it into a chronic state. But sometimes this will not be the case—and then the question arises, how long are we to go on with the energetic depletive process? After the above period, M. Lisfranc advises that some food be given, first, of the lightest kind, chiefly the farinaceæ—and then, gradually more and more nutritive, otherwise we may considerably injure the tone of the digestive organs. In respect to local bleedings, they must be continued as long as they appear to afford relief to the part, and not to enfeeble too much the constitution. Sometimes, though very rarely, these means fail to quell the acute inflammation, and we are forced to desist for a time, and allow the patient to rally a

little. The topical applications, in the mean time, are to be continued, and a moderate diet allowed. In a fortnight or three weeks, we may resume the local bleeding. Should all these means fail in reducing the march of the acute inflammations, there will be little other chance of saving the patient's life but by amputation. Many practitioners recommend this operation to be delayed till the patient has arrived at an advanced degree of emaciation. M. Lisfranc is of a very different opinion. He removes the limb as soon as he finds the means above-mentioned fail, and the patient's general health begins to be sensibly deteriorated. We think he is quite right.

Chronic White Swelling. When the acute has terminated (as it usually does) in the chronic form of the disease, free sanguineous depletion is detrimental. When the disease, however, has *commenced* in the chronic form, as it sometimes does, then M. Lisfranc thinks it advisable to employ a few active local depletions—since in this, as in several other parts of the body, there is sometimes a *latent* acute inflammation going on, which does not manifest itself by the usual symptoms. A remarkable instance of this kind happened a few years ago, the anatomical preparation being presented to the Academy of Medicine by M. Lisfranc. A vigorous young man was received into La Pitie, for a white swelling of the knee joint. He complained of no pain, even when the joint was bended or extended—in short, he did not present a single symptom of inflammation, except the *swelling*. While in the hospital he got intoxicated one day, and, falling on his head, he was carried off in a few hours. On dissection of the joint there were unequivocal evidences of a violent acute inflammation. The articular capsule was of a dark red colour, thickened, and softened in texture. The cellular tissue was yellow, abundant, hardened, and lardaceous, intersected by numerous red vessels. In this case it is evident that had stimulating applications been used at the beginning, under the impression that no active inflammation existed, the disease would have been greatly exasperated, and probably the limb would have been lost. Nevertheless the cure of chronic white swelling can not be effected without stimulants, or resolvents, although their *modus operandi*, where there is dis-

organization or complete change of structure, is an enigma which we can not at present solve. The fact, however, is certain, whatever may be the explanation.

The first step of treatment, then, in chronic white swelling, is the application of a small number of leeches—from two to six, with the precaution not to let the bites bleed long. On this plan, their action is rather excitant than otherwise, as has been proved hundreds of times by M. Lisfranc, at La Pitie. After the application of the number above-mentioned, with the precaution respecting the bites, we generally find, the next day, that the volume of the swelling is augmented—its sensibility increased—and sometimes an erysipelas established around the bites. These symptoms need occasion no alarm. In forty-eight hours the erysipelas will have disappeared—the tumefaction and sensibility will have abated—and the original volume of the swelling will be found to have become somewhat diminished. At the end of four or five days the leeching (on the small scale above-mentioned) may be renewed, and will be followed by similar effects. The temporary increase of excitement, after the leechings, was always regarded by M. Lisfranc as advantageous, being invariably, when moderate in degree, succeeded by either diminution of size, or softening in the consistence of the joint affected. The leechings should not, of course, be renewed till the excitement produced by the preceding batch has subsided. Sometimes the excitement rises too high after these small leechings, and continues more than two or three days. In that case, we must subdue the excitement by the application of a considerable number of leeches—which will rarely fail to produce the effect desired. Speaking generally, the after-excitement will be in an inverse ratio to the number of leeches applied:—consequently, if five leeches produce too much subsequent inflammation, eight or ten ought to be applied the next time—and, on the other hand, if five leeches produce no after-excitement, only two or three should be applied at the next period, and so on.

It is not always, however, that excitement, in any degree, follows these small leechings. The swelling and hardness will be found to diminish after these applications, without any intervening excitement. The same remark, though not to the same

extent, is applicable to blisters and the moxa. These sometimes produce their good effects without the intervention of a temporary increase of inflammatory action in the part.

When the leechings cease to be followed by the salutary consequences above described, we are to omit their application for ten, fifteen, or twenty days, when the susceptibility of the parts will be found renewed, as it were, and then we are to reiterate the leeching.

If the leechings do not appear to be productive of the good effects sought for, we must try some other means. If the swelling be only softened, but not reduced in volume, compression may be usefully employed. Next to leechings, however, we must, in general, have recourse to flying blisters. Their effects are analogous to small leechings. They first produce excitement, and subsequently diminution or softening of the tumour. The blisters should be renewed every seven or eight days. When these fail to produce the desired effects, then the moxa is to be employed, on the same principle, and in the same manner as the small leechings and the blisters—that is, about once in seven or eight days. They should not be larger than the size of a five sous piece, in order that the eschars may not interrupt the reiteration of the remedy. Whenever the excitement resulting from the moxa runs too high, then large leechings are to be employed for its reduction. The tumour being softened by the moxa, as by any of the other means, compression, for a time, (eight or ten days,) is to succeed, protecting the eschars by proper dressings. When the disease is very chronic; and when the means already enumerated begin to fail, setons are very serviceable. When they excite too much irritation, they are to be reduced in size, or, this failing to lessen the excitement, leeches and antiphlogistic measures are to be put in force.

Notwithstanding all the means we can employ, it often happens that a certain degree of engorgement remains, especially at the lower part of the joint—and also some effusion in the articulation itself. We need not be anxious about this, as in the majority of cases, time will remove it. If tardy in its dispersion, mercurial frictions will be serviceable, as also frictions with the ointment of iodine, (hydriodate of potash.) These may be alternated with other stimulating liniments, while the local

application of the warm water or vapour bath is to be brought in as an auxiliary of no mean efficacy.

A curious fact is here noticed by M. Lisfranc—namely, that, after the cure of white swelling by the above-mentioned means, the joint gets smaller than before the disease took place, and will continue so for a considerable space of time. The patient should be cautioned to return very gradually to the free exercise of the joint, since relapses are apt to ensue from want of attention to this point. If the disease be in the lower extremity, the patient should go on crutches for one or two months after the symptoms have disappeared. The joint should be kept tightly bandaged for a long time after all other means are discontinued.

M. Lisfranc has repeatedly remarked that, where the white swelling has been situated in the joints of the superior extremities—especially in females, the application of leeches, even in great numbers, and preceded by general blood-letting, has determined congestions in the thoracic organs, and produced difficulty of breathing and palpitations of the heart. In other instances, cerebral congestions have been the result of remedial measures applied to the local complaint, and apoplexy threatened. The local treatment must then be continued, and leeches applied to the feet, together with purgatives and diuretics internally. It is also proper to discontinue the local treatment, in the case of females, for a few days previous to each expected menstrual period, lest the process should be interrupted in its course.

The above-described treatment will generally prove successful in the idiopathic white swelling—but the case will be different when we have the *symptomatic* form of the disease to contend with. Here we must attend to the constitutional disorder, of which the white swelling is only a part, or rather an effect. We need not enter upon the constitutional treatment of rheumatism and scrofula in this place; but only remark, that the local treatment, indicated in the preceding pages, will prove serviceable as an auxiliary to the constitutional, in the symptomatic forms of white swelling.

Twenty-three cases are minutely detailed from the practice of Beclard and M. Lisfranc, in La Pitie, illustrative of the va-

rious positions laid down in the foregoing paper. These we must pass over, of course, hoping that we have, in a few pages, concentrated a considerable mass of important and useful pathological and therapeutical matter, the result of experience in a public institution, by a man of eminence, talent, and strict veracity.

SELECTED INTELLIGENCE AND NOTICES.

1. *A new method of separating the Placenta from the Uterus, in cases of morbid adhesion.*—An Italian physician has practised the following process with uniform success. Having left the vein of the umbilical cord to itself for some time, that it may disgorge itself of the blood which it contains, and having deprived it of its fluid as perfectly as possible by artificial means, he injects through it into the uterus, with a certain degree of force, a quantity of water acidulated with vinegar. Either the sudden impression made upon the placental tissue by the injected fluid, or the sensation of cold which is at the instant communicated to the vascular structure which unites it to the uterus, causes a separation always to take place, without being under the necessity of introducing the hand into the uterus. In case the first injection does not succeed, he repeats it a second and a third time, always taking care to let the previously injected fluid pass out of the vessels before he repeats the operation.

Reper. di Med. &c. Torino, Maggio 1826.

(*As quoted by the New Eng. Med. Rev. No.* 3.)

2. *Tobacco in the Painters' Colic*—Dr. Graves, in the Dublin Hospital Reports, vol. IV. recommends the application of tobacco stupes to the belly, till the peculiar effects of the drug are manifest in the system. This form of administration he prefers to that by injection, as equally efficacious, less rapid in action, and capable of being left off more easily before any alarming symptoms appear. Their employment is to be followed up by the usual cathartic medicines, especially pills containing croton oil.—*Edin. Med. and Surg. Journ. April*, 1827.

3. *Piorry's Pleximetre.*—M. Piorry has announced that, by means of a small pallet of ivory placed on any part of the abdomen or thorax, he has been enabled to turn percussion to a much better account than has yet been done; the sound emitted by the portions thus covered by the ivory pallet, being much clearer and more indicative of the actual state of the parts underneath, than when these parts are stricken by the fingers in the usual way. M. Piorry has made more than eighty experiments on the living and dead subject, healthy and diseased. By means of this intervention, sound may be elicited from the thorax, even when the integuments are œdematous. The extent of pleuritic effusions may be ascertained with great exactness. Hepatisation, and also a tuberculated condition of the lungs can be more readily detected in this way than by simple percussion. But it is in the abdominal region that the pleximetre promises to be of most service. The extent which any solid organ, as the liver, occupies—that of tumours—watery effusions, &c. may be easily ascertained by the difference of sound on percussion of the tablet instead of the naked parietes. Even the quantity of fluid in the stomach or intestines can be appreciated. The state of the uterus (when pregnant) can be also correctly estimated through the medium of the pleximetre.

If discoveries go on in this manner for half a century more, there will be little occasion for the ancient desideratum—a glass window in the breast—to see what is going on within.

London Med. Chir. Rev. for April, 1827.

4. *Purulent Ophthalmia of Infants.*—Dr. F. A. Ammon has published a monograph on the anatomico-pathologic condition of the globe and membranes of the eye in the ophthalmia of young infants. In this disease, there is a great congestion of blood in the internal parts of the eye, which sometimes almost amounts to inflammation. The exterior parts of the globe presented precisely the same aspect as the contagious ophthalmia,—a new proof as to the identity of these two diseases.

N. A. Med. and Surg. Jour. for April, 1827.

ORIGINAL INTELLIGENCE AND NOTICES.

1. EARTHQUAKE. On the 5th inst. (July, 1827,) a little before 6 o'clock in the morning, the states bordering on the Ohio and middle section of the Mississippi, were visited by an earthquake. At Cincinnati it was a vibration that lasted for a great number of seconds; and communicated an obvious agitation to liquids previously at rest, and to loose articles of furniture. It was felt in all parts of the city, but not by all persons. In about half an hour afterwards, another and slighter shock was observed by a few people. The morning was fair, warm and calm. No unusual atmospheric phenomena succeeded.

Of the geographical limits of this vibration we are not particularly informed; but the public journals have announced its occurrence in other parts of Ohio, especially the western, in Kentucky, Tennessee, Indiana, Illinois and Missouri; which are the states that suffered the great visitation of the same kind in 1811, 12 and 13; and hence we may conclude, that it was the offspring of the same cause which sustained that remarkable series.

2. CLOQUET'S ANATOMY. We congratulate the Profession in the United States, on the prospect of having this great work placed within their reach. By the enterprise of our distinguished friend, Professor Godman, a translation of it will shortly be offered to the American public. The plates, like those of the original, will be in lithography; and executed in a masterly manner, by Mr. Pendleton of Boston; whose personal exertions to introduce the art of lithographic engraving into this country, entitle him to praise. We have seen specimens of both the letter-press and the plates, of which we can speak in the most favourable terms.

The publication of M. Cloquet's work was begun in Paris, in 1821, and has been continued, with a few interruptions, ever since. We have been for some time in possession of the three first volumes; which treat of the *Bones*, *Muscles*, and *Nervous System*, including the *Organs of Sense*, with all the parts, figured of their natural size; and we do not hesitate to express the opinion, that it is the most lucid, minute and faithful map and description of the human body, ever published. On the subject of the bones, it is highly instructive; in the study of many parts of the muscular system, it affords facilities scarcely inferior to those of the anatomical room; while, in reference to the intricate structure of the brain and nervous tissue, it is in general superior to the ordinary dissections of those parts.

3. Medical Graduations. We have already published the number of graduates for the present year, in the Medical College of Ohio, Transylvania University, and the University of Pennsylvania. The following table embraces most of the remaining schools of the United States. We can not at present make it more complete.

University of Maryland,	77
Jefferson College,	34
College of Surgeons and Physicians of the Western District of New York,	25
Berkshire Medical Institution,	20
Yale College,	19
College of Surgeons and Physicians in the city of New York,	12
Columbian College,	7

4. To Correspondents and Subscribers. *The History of a case of Stricture of the Urethra, with reflections*, by a Kentucky Correspondent, is one which shows the author to be well acquainted with the principles of clinical and surgical practice; and serves to confirm several important rules of treatment laid down by Bell and Abernethy; but it does not present enough of novelty to justify its publication *in extenso*.

The Comments on the obstetrical paper contained in our second number, received from an Ohio Correspondent, are too controversial and speculative to comport with the plan of our journal, which we wish to render as practical as possible.

The Case of Amputation of the thigh by a single flap, transmitted to us by another Ohio practitioner, although quite successful, and in some respects interesting, seems to present too slight a departure from the ordinary mode of performing the flap operation, to render its publication important.

The History of a case of Inversio Uteri, in which our Correspondent of Missouri supposes the organ to have sloughed away, appears to us to involve a mistake. We are inclined to regard the substance discharged, as a factitious membrane, formed on the inner surface of the uterus, and assuming the figure of that organ.

The August number of the Journal will be put to press immediately; and may be expected to appear by the close of the month for which it is intended. Thenceforth a number will appear regularly at the end of every month.